

COLONY OF MAURITIUS.

ANNUAL REPORT

ON THE

MEDICAL & HEALTH DEPARTMENT

FOR


1915.



MAURITIUS.

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I.—STATISTICS OF POPULATION.

Population. According to the Registrar General's report, the Civil population of the Colony on December 31st, 1915 is estimated at 375,420—a decrease of 813 on the population returned for 1914. The reduction is explained by the fact that there were 7 deaths more than births and an excess of 806 in the number of emigrants over that of immigrants.

Deaths. The number of deaths during the year was 13,101, with a death-rate of 34.8 o/oo. The corresponding figures for the previous year are 12,134 deaths and a death-rate of 32.5 o/oo. Though the death-rate was higher than in 1914, it remained slightly lower than the average death-rate for the last decennial period which was 35.9 o/oo of the population. In the districts Port Louis shows the highest death-rate, 41.0 o/oo. Pamplemousses and Black River follow with 40.9 and 40.1 o/oo respectively, and Grand Port, Savanne, Flacq, Moka, Rivière du Rempart and Plaines Wilhems with 37.5, 35.9, 34.4, 33.2, 29.2 and 27.6 o/oo respectively. The largest number of deaths, 4,401, was ascribed to malaria, giving a percentage of 33.5 o/o on total deaths. Tuberculosis was answerable for 959, Pneumonia for 710 and Dysentery for 636 deaths. Annexure II which has been drawn up with the figures kindly supplied by the Registrar General gives further details on the subject.

Births. The total number of births was 13,094 or 2,135 less than in 1914. The birth-rate was 34.8 o/oo as compared with 40.8 o/oo for the preceding year. As pointed out above the number of births and deaths showed but a small margin of 7 on the side of the deaths. In the districts Rivière du Rempart had the highest birth-rate, 38.9 and Savanne the lowest: 31.8 o/oo.

II.—METEOROLOGICAL STATISTICS.

The customary information with regard to meteorological observations showing an interest from the point of view of public health is given in Annexure III and has been kindly supplied by the Director of the Royal Alfred Observatory. The comparatively high rainfall in February and March was soon followed by a rise in the prevalence of malaria. The number of admissions in hospital and of cases seen at dispensaries began to increase in March and reached a maximum in April after which there was a gradual fall to lower figures in June and July.

III.—PREVALENCE OF SICKNESS

AND

THE RECURRENCE OF PARTICULAR DISEASES.

The figures in this part of the report are as usual derived from the returns received from the hospitals, asylums and dispensaries under the charge of this Department. A total of 19,658 were treated as in-patients in the hospitals, an increase of 679 on the sick admitted in 1914, due principally to a larger influx of cases of malaria and dysentery. There were 1,155 deaths, giving a case mortality of 5.6 o/o and 2,256 operations were performed with 46 deaths. At the dispensaries there was a great reduction in the number of cases attended to, the total being 57,716. 5,945 outdoor cases were treated in the hospitals showing a slight rise on the figure for the previous year. Taking the above into consideration as well as the increased prevalence of malaria and the rise in the death-rate, it may be said that the sanitary condition of the Colony was not satisfactory during the year under report.

Malaria and Hypertrophy of the Spleen.—3,728 cases were admitted into the hospitals, an increase of 803 over 1914. The case mortality 1.63 was slightly lower than the previous year, 1.77 o/o. The death-rate per thousand of the population was 11.7 against 10.4 o/oo in 1914 ; it was however lower than that of the last decennial period 12.7 o/oo.

At the dispensaries 20,641 malaria cases received treatment, an excess of 436 on the preceding year.

Statement showing the admissions for Malaria and Hypertrophy of the Spleen in the public hospitals and asylums during the year 1915.

Institution.	Malaria.	Hypertrophy of Spleen.	Total.
Civil Hospital	674	82	756
Port Louis Prison Hospital ...	139	...	139
Long Mountain „	266	2	268
Poudre d'Or „	208	52	260
Flacq „	230	37	267
Mahebourg „	199	1	200
Souillac „	149	18	167
Barkly Asylum „	632	49	681
Lunatic Asylum „	126	...	126
Beau Bassin Prison „	250	3	253
Reformatory „	42	...	42
Moka „	538	31	569
Total	3,453	275	3,728

Statement showing the admissions during the last decennial period.

Years.	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Admissions ...	3,674	4,272	5,071	3,929	2,338	2,117	3,063	2,546	2,925	3,728

Statement showing the Spleen Rates of Children in Schools.

Half-year ended 30th June 1915.

Districts.	Total children on roll.	Children examined.	Spleens.					Spleen Rate.	Average Spleen.
			1	3	6	9	Total with spleen		
Port Louis ...	5,612	3,148	2,374	456	199	119	774	24.55	1.9
Pamplemousses	1,617	904	600	158	78	68	304	33.62	2.38
Riv. du Rempart	1,301	676	545	79	26	26	131	19.38	1.73
Flacq	2,233	1,210	833	196	100	81	377	31.16	2.27
Grand Port ...	2,884	1,758	1,381	321	43	13	377	21.44	1.54
Savanne ..	1,299	681	527	132	17	5	154	22.6	1.57
Black River ...	515	293	142	68	41	42	151	51.5	3.31
Plaines Wilhems	5,724	4,197	4,117	67	7	6	80	1.9	1.05
Moka	1,437	790	693	51	23	23	97	12.28	1.51
Total ...	22,622	13,657	11,212	1528	534	383	2,445	17.90	1.6

Note : Figure 1 = normal spleen
 3 = three times the size of normal spleen
 6 = six times " "
 9 = nine times " "

Statement showing the Spleen Rates of Children in Schools.

Half-year ended 31st December 1915.

Districts.	Total children on roll.	Children examined.	Spleens.					Spleen Rate.	Average Spleen.
			1	3	6	9	Total with spleen.		
Port Louis ...	5,597	3,822	2,916	447	253	206	906	23.70	1.99
Pamplemousses ...	1,685	1,016	780	141	58	37	236	23.2	1.85
Rivière du Rempart	1,306	935	800	80	43	12	135	14.4	1.50
Flacq ...	2,108	1,333	974	202	98	59	359	26.9	2.02
Grand Port ...	2,769	1,827	1,476	311	28	12	351	19.21	1.41
Savanne ...	1,362	684	494	153	33	4	190	27.77	1.73
Black River ...	503	308	187	54	33	34	121	39.28	2.76
Plaines Wilhems...	5,857	3,924	3,837	74	9	4	87	2.21	1.05
Moka ...	1,527	920	839	44	24	13	81	8.8	1.34
Total ...	22,714	14,769	12,303	1506	579	381	2,466	16.69	1.6

Dysentery :—The number of admissions rose from 500 in 1914 to 732 with 76 deaths in 1915. The death-rate was however lower, 10.3 o/o against 13.0 o/o the year before.

Enteric Fever :—There was a well marked reduction in the number of patients admitted for enteric fever ; 56 against 92 for the previous year. The death-rate also was much lower 17.8 against 26.0 o/o. For the whole Colony 188 cases were notified, against 234 in 1914.

The following table shows the distribution of the cases in the various districts:—

District.	January	February	March	April	May	June	July	August	September	October	November	December	Total.	
													1915	1914
Port Louis ...	...	...	3	4	6	3	2	...	1	...	2	3	24	62
Pamplemousses ...	...	1	...	...	...	...	...	...	4	1	...	...	6	3
Rivière du Rempart...	1	...	...	5	...	3	2	5	5	3	1	2	27	18
Flacq ...	...	...	...	...	...	...	...	...	...	...	...	2	2	3
Grand Port ...	1	...	2	...	1	...	3	...	2	...	...	...	9	9
Savanne ...	2	1	1	...	3	...	5	...	...	10	6	4	32	15
Black River ...	...	...	...	...	...	1	1	...	...	...	...	...	2	...
Plaines Wilhems ...	8	1	2	5	8	3	4	7	10	11	6	9	74	90
Moka ...	1	2	3	2	...	...	2	1	...	1	...	...	12	34
Total ...	13	5	11	16	18	10	19	13	22	26	15	20	188	234

The disease has been much less prevalent in Plaines Wilhems, Port Louis and Moka while on the other hand the incidence has been higher in Savanne and Rivière du Rempart districts.

Diphtheria :—Two cases which recovered were admitted in the hospitals. The total number of cases notified in the Island was 35 with 3 deaths.

Influenza :—The number of admissions for influenza was smaller than in 1914 ; 1,155 against 1,236. There were 45 deaths and the death-rate rose from 2.5 to 3.8 o/o. The total number of deaths from Influenza in the Colony was 197 against 268 in 1914.

Pneumonia :—The admissions for pneumonia were practically the same as last year, 349 against 350. The death-rate 28.0 o/o was lower by 2.6 o/o. The total number of deaths in the Island was 710, a decrease of 209.

Tuberculosis :—The number of admissions as well as the number of deaths in the Colony were less. 812 admissions, 959 deaths against 869 admissions and 974 deaths in 1914.

Cerebro-Spinal Meningitis :—No case treated in hospitals. 4 cases (of which 3 fatal) were notified.

Beri-Beri :—95 cases were admitted for treatment with 10 deaths.

Nephritis :—660 admissions with 121 deaths against 568 cases with 91 deaths the previous year.

Syphilis :—There was a decrease in the number of patients admitted and of outdoor cases. The former number 413, a decrease of 63 and the latter 472, a decrease of 65 on the patients treated in 1914. Five cases proved fatal and 134 of the admissions in hospital were for primary infection.

Leprosy :—There were 83 lepers in the St. Lazare Asylum on the 1st January 1915 (65 were men, 18 women). The total number treated in the establishment was brought up to 107 (82 men, 23 women and 2 children) by the admission during the course of the year of 17 men, 5 women and 2 children. 9 men and 3 women were discharged and 12 men and 2 women died. The number of inmates remaining on 31st December 1915 was 81 (61 men, 18 women, 2 children).

Erysipelas :—43 cases of erysipelas were admitted into the hospitals; there were 12 deaths. For the whole Island 58 cases were notified with 26 deaths.

Measles :—No admissions. Two cases which recovered were notified

Scarlet Fever :—No cases reported.

Mental Diseases :—The total number of certified insane persons in the Colony on 31st December 1915 was 722, showing an increase of 16 in the figures for 1914. The ratio of insane to total population was 1 in 519 or 19.25 per 10,000. The total number of patients under treatment at the Lunatic Asylum on the above date was 479 (293 males and 186 females) and there were 98 harmless imbeciles (68 males and 30 females) in the Branch Wards of the Barkly Asylum pauper establishment. The balance of the certified lunatics, 145, consists of the insane allowed out on probation under the care of their relatives or friends. During the course of the year there were 140 admissions (85 males and 55 females) into the Lunatic Asylum. These may be classified into 75 first admissions, 6 second admissions, 1 fourth admission, 38 readmissions from probation, 3 readmissions from the Barkly Asylum Hospital (three females transferred, one for confinement and two for typhoid fever), 4 readmissions from the Barkly Asylum Branch Wards, 11 admitted and subsequently found not insane and 2 admitted under interim order and still awaiting decision on 31st December. In the Asylum the daily average was 484.98 and in the Branch Wards 89 against 470.45 and 94.2 respectively in 1914. As pointed out in previous reports, the cause of the mental trouble when ascertained is ascribed mainly to epilepsy, hysteria, gunjah smoking, alcoholism, malaria, mental worry and depression, and there is a preponderance of admissions from Plaines Wilhems and Port Louis and from the class of persons without fixed occupation. During the course of the year 6 Criminal Lunatics (5 males and 1 female) were admitted. The total number of this class of lunatics on 31st December 1915 was 23 (20 males and 3 females). One hundred and four patients (60 males and 44 females) were discharged from the Lunatic Asylum and the Branch Wards of the Barkly Asylum. Besides, 11 admitted and found not insane as well as 7 inmates were finally discharged. 76 were discharged on probation by the Central Board. There were 45 deaths in the establishment.

Whooping Cough :—No case treated.

Varicella :—Six cases treated in the hospitals. 19 cases were notified from other places.

Dengue :—The disease was prevalent in the Island in 1915. In the hospitals and at the dispensaries the first cases were seen in March and only 4 cases were recorded after August. On the whole 115 cases were admitted into the hospitals and 299 cases were attended to at the dispensaries.

Plague :—There has again been a well marked fall in the incidence of plague. Only 33 cases were notified during the year with a death-rate of 75.8 o/o. The cases were distributed as follows :—Port Louis 8 cases, Plaines Wilhems 3 cases and Savanne 22 cases.

In Port Louis 7 cases occurred in January and 1 in April. In October 3 Chinamen who had contracted the disease at Camp Diable were found out in Port Louis. These cases have been returned with the ones in Savanne district. In Plaines Wilhems 2 cases were detected at Rose Hill and 1 at Quatre Bornes, all during the month of January. The cases in Savanne district were the result of an outbreak on Riche Bois Estate with 18 cases, which extended to the neighbouring village of Camp Diable where 4 Chinamen were affected with the disease. With the exception of one case in Port Louis in April and of one in June at Riche Bois, the Colony remained free from plague from the 15th of January to the 14th of August. No cases were detected in November and December.

Race incidence :—No member of the white population suffered from the disease. The indian population owing to the outbreak on a sugar estate account for 25 cases, the general population and the Chinese for 4 cases each.

Sex incidence :—23 males and 10 females with a percentage of 69.7 and 30.3 o/o respectively. The male death-rate was practically the same as last year but among the females the death-rate fell from 88.7 to 50.0 o/o.

Age incidence :—No case among infants under one year and adults over 70. The age groups 1 to 10, 11 to 20 and 21 to 70 show 4, 8 and 21 cases respectively.

The following is a statement of the number of cases, deaths and death-rates since the outbreak of plague in the Colony :—

Years.	Cases.	Deaths.	Death-rate.
1899... ..	1,416	1,117	78.9 o/o
1900... ..	796	593	74.5
1901... ..	1,093	805	73.7
1902... ..	506	384	76.3
1903... ..	1,395	1,035	74.2
1904... ..	568	449	79.0
1905... ..	308	251	81.5
1906... ..	434	344	79.3
1907... ..	224	178	79.5
1908... ..	167	137	82.0
1909... ..	457	333	72.9
1910... ..	731	553	75.6
1911... ..	173	131	75.7
1912... ..	656	541	82.5
1913... ..	313	261	83.4
1914... ..	125	111	88.8
1915... ..	33	25	75.8

Type of disease :—The bubonic type was as usual the one more frequently met with. The classification is as follows :—

Bubonic 22 cases with 17 deaths, Septicœmic 4 cases all fatal and Pneumonic 7 cases with 4 deaths.

Disinfection, &c.—The usual work in connection with disinfection of premises and areas and the destruction of rats has been carried out during the year. Disinfection of premises in Port Louis was performed on 3,043 occasions in connection with human and rat plague as well as for suspected infection, when 2,629 dead animals (rats, mice and cats) were found. The trapping and poisoning of rats was extensively carried out ; 52,296 rodents were destroyed in Port Louis and 55,562 in the Country districts. The smaller number of rodents destroyed in Port Louis with an increased staff under careful supervision indicate that the rat population of the town was in a measure kept under control. Microscopical examination of 76.9 o/o of the rats caught in Port Louis for plague bacilli showed an infection rate of 1.7 o/o, a reduction of 4.7 o/o on the rate for 1914.

The portable Clayton disinfector was employed 201 times for the disinfection of grain stores, and sulphur fumigation with ordinary burners was also carried out. 2,106 rodents were destroyed by the application of these measures.

Lazarets and Treatment.—Only seven cases were admitted into public hospitals—5 at Bois Savon Lazaret with 3 deaths and 2 (both fatal) at the Civil Hospital.

The sick at Riche Bois were treated in the Estate lazaret.

IV. VACCINATION.

10,358 children were vaccinated during the course of the year; the decrease in the number of vaccinations as compared with the return for 1914 is largely due to the fall in the birth-rate.

The operation was reported as successful in 10,318 cases; failure being recorded in only 15 cases, while the result of the vaccination could not be ascertained in 25 cases. The percentage of vaccinations was 79.1 of total births.

V. SANITARY ADMINISTRATION.

Annexures IV, V & VI deal with this matter.

VI. HOSPITALS AND ASYLUMS.

The following table gives a summary of the work done at these institutions during 1915 :—

Work done in the Public Hospitals and Asylums in 1915.

Hospitals.	Remaining on 31.12.14	Fresh cases.		Deaths.	Remaining on 31.12.15.	Number of Beds.
		In-door.	Out-door.			
Civil	183	5,925	374	368	168	290
Port Louis Prisons ...	5	364	610	1	5	17
Long Mountain ...	15	1,142	99	60	9	35
Poudre d'Or	33	1,479	...	86	20	68
Flacq	19	1,359	60	87	14	82
Mahebourg	16	1,337	287	80	27	106
Souillac	17	1,336	47	98	19	78
Barkly Asylum ...	109	3,582	74	250	100	219
Lunatic Asylum ...	36	587	1,704	45	32	33
Beau Bassin Prisons...	15	707	2,629	13	18	32
Reformatory ... ..	...	62	40	...	...	10
Moka	36	1,778	21	67	34	60
	484	19,658	5,945	1,155	446	1,030

VII. MISCELLANEOUS.

Port and Quarantine :—The total number of ships boarded during the year was 198 : 158 of them were at once admitted to pratique, 19 refused pratique and 21 were given pratique after the disinfection of the clothing and effects of the steerage passengers had been carried out. 21 vessels were "claytonised". The Harbour Disinfecting Station was used on 17 occasions for the disinfection of the effects of outgoing passengers and 3 times for that of passengers arriving in the Colony. Infected articles from 186 cases of infectious disease on shore were also dealt with at the Station.

Anti-malarial Works :—The execution of major anti-malarial works has been continued during the year under report, and the upkeep of the works already completed and the minor works have been attended to by the Sanitary Wardens.

The more important major works undertaken by the Sanitary Engineer's branch were carried out in Lataniers River, Port Louis ; in Rivière Sèche, Deep River and Rivière Françoise in Flacq district ; in Citron River, Tombeau River, Pamplémousses River, at Powder Mills and Cocoterie marsh in Pamplémousses. In Grand Port district work was done in Ruisseau Sec, Rose Belle ; and at Black River drainage works were carried out at Case Noyale. The Pitot drain was completed.

LABORATORY WORK.

Chemical and Medico-Legal :—In the course of 1915, 280 samples or articles of evidence relating to 84 different cases were received for examination by the Government Analyst.

The cases were as follows :—

Rape ...	...	...	...	19 cases.
Murder ...	...	...	...	8 „
Poisoning ...	...	...	...	5 „
Sodomy ...	...	...	...	2 „
Renaturation of Spirits 1, theft of chemicals 1, pollution of rivers 2, testing of lubricating oils 1, illicit distillation 1, testing of petroleum oil 1, analysis of coals 1, illicit possession of gunjah 1	...	...	...	9 „
Sale of food unfit for consumption : Milk 35, edible oils 1, tinned sardines 2, pepper 1, urine 1, rum 1	...	...	...	41 „
				84 cases.

The articles were submitted as follows by the various Government Departments :

Medical and Health Department	...	...	43 cases
Police	...	...	36 „
Revenue	...	...	3 „
Railway	...	...	2 „
			<hr/>
			84 cases

Bacteriological and Clinical : The following is a summary of the Clinical work done :—

Microscopical examination for malaria and filarial diseases, diphtheria, plague, tuberculosis, dysentery and other diseases	...	...	431
Vidal's reaction for typhoid and paratyphoid	...	...	234
Wasserman's reaction	...	...	16
Bacteriological examinations involving cultures (blood, pus, mucus, urine and water)	...	...	152
Differential	...	...	71
Blood counts	...	...	9
Vaccines (autogenous)			
Typhoid	...	...	28
Staphylococcus 19, para-typhoid 4, Bac : lactis aerogenes 1, Bac : coli communis 7, bac : paracoli 3, bac : neapolitanus 2, streptococcus 3	...	...	39
Examination of urine	...	...	87
Preparation of antigens for Wasserman's reaction	...	...	2
Titration of antigens	...	...	4
Quantitative estimation of urea in blood	...	...	2

The increased demand for auto vaccines shows the success achieved by the Laboratory in this direction.

Antityphoid vaccine for prophylactic purposes was also prepared by the Wright Leishman method and 243 persons were inoculated.

Owing to the heavy clinical and analytical work, the attention of the Staff could only be directed in an intermittent manner to research or experimental work.

The following were undertaken :—

The preparation of a goat serum for the treatment of unoperable cancer. The study of the bacteriology of urine in black water fever. The study of coccidiosis and of a disease apparently due to trichomonas in laboratory

animals. The study of blastocystis hominis and trichomonas intestinalis in human diarrhoea. Changes apparently of a bacterial nature in lemonade. Preliminary arrangements for the preparation of bovine tuberculin.

These undertakings called for 32 experiments on and 43 necropsies of small animals. Quarterly examination of Mare-aux-Vacoas water was also made during the year. The fees received by the Laboratory for work done for private parties amounted to Rs. 4,605.35, an excess of Rs. 388 over the collections for 1914, showing that the work done by the Laboratory and the usefulness of the Institution is more and more appreciated by the medical profession and the public.

Departmental changes, &c. :—The Staff of Medical Officers was affected by the death during the course of the year of Dr. Crétin, Acting Police and Prison Surgeon, Dr. A. Ménagé, Government Medical Officer, Rivière du Rempart and Dr. S. A. R. Monty, Government Medical Officer, Flacq, who had assumed the duties of Police and Prison Surgeon on the death of Dr. Crétin. I would here express my deep regret at the loss and of the devoted services of these colleagues two of whom, Drs. Ménagé and Monty, had been connected with the Department for more than 30 years.

The enactments with regard to Buildings and Common Lodging Houses were revised—Ordinances Nos. 13 and 15 of 1915. Ordinances extending the sanitary powers of the Boards of Quatre Bornes and of Beau Bassin-Rose Hill were also passed—Ordinances Nos. 29 and 30 of 1915.

The management of the Curepipe Market was handed over to the Curepipe Board and a new market is being built in the township.

F. J. R. MOMPLÉ,

Acting Director,

Medical and Health Department.

20th June, 1916.

ANNEXURE I.

Return of the Statistics of population for the year 1915.

	Europeans, White, Mixed and Coloured and Africans.	Indians.	Chi- nese.	Total.
Number of Inhabitants on 31.12.14.	109,281	261,572	5,380	376,233
„ Births in 1915... ..	3,966	8,969	159	13,094
„ Deaths „	3,801	9,179	121	13,101
„ Immigrants „	2,198	735	898	3,831
„ Emigrants „	2,479	1,215	943	4,637
„ Inhabitants on 31.12.15.	109,165	260,882	5,373	375,420

ANNEXURE II.

Statement of deaths from principal diseases during the year 1915.

Obtained from Civil Status returns.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Plague	9	...	...	1	...	1	...	3	7	5	...	...	26
Enteric fever	4	2	2	4	2	3	1	1	3	4	2	5	33
Malarial fever	246	326	420	443	591	450	401	341	323	332	272	256	4,401
„ Cachexia	8	3	11	14	10	13	15	18	15	11	11	9	138
Dysentery	29	44	53	44	90	81	64	51	59	51	42	28	636
Whooping Cough... ..	4	3	6	1	...	...	...	...	...	...	...	...	14
Influenza	11	11	10	14	7	15	33	34	23	19	14	6	197
Pneumonia	65	33	65	40	46	53	97	58	81	70	58	44	710
Bronchitis	37	41	69	57	62	52	66	56	45	57	47	43	632
Phthisis	5	3	5	4	11	5	3	5	7	3	3	3	57
Tuberculosis	71	75	99	78	85	86	85	79	75	90	72	64	959
Erysipelas	4	1	2	...	1	2	2	5	2	4	...	3	26
Measles ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria	1	1	...	1	...	...	...	...	...	...	...	...	3
Cerebro-Spinal Meningitis ... ..	...	...	1	...	...	...	...	...	1	...	...	1	3

ANNEXURE III.

Meteorological Return for the year 1915.

Month.	Temperature.					Rainfall.		Wind.	
	Minimum on Grass.	Shade Maximum.	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.
January	67.0	87.6	71.9	15.7	79.0	1.03	67.6	S 85 E	10.11
February	70.7	86.8	74.2	12.6	79.7	10.13	76.3	S 91 E	9.73
March	70.0	84.1	73.5	10.6	78.4	10.19	80.9	S 87 E	10.47
April	66.2	83.2	71.1	12.1	76.6	2.81	81.3	S 72 E	8.16
May	62.3	79.5	67.7	11.8	73.3	3.33	77.1	S 68 E	10.44
June	56.9	76.3	63.1	13.2	69.4	0.99	75.7	S 60 E	9.91
July	55.8	75.0	62.4	12.6	68.1	2.75	77.5	S 69 E	10.37
August	52.3	75.0	59.5	15.5	66.8	0.78	70.3	S 52 E	11.92
September	56.4	77.5	62.6	14.9	69.4	1.06	70.4	S 61 E	11.82
October	57.2	81.5	63.6	17.9	72.2	0.17	65.2	S 72 E	10.27
November	61.7	83.4	67.5	15.9	74.7	0.64	66.7	S 81 E	11.73
December	67.8	86.0	71.8	14.2	78.0	2.16	69.7	S 95 E	11.91

ANNEXURE IV.

Annual Report on the work done in the Sanitary Branch during 1915.

The reports received from the various local Sanitary Authorities on the sanitary condition of the districts under their charge are herewith submitted along with the usual statements showing the duties performed and the contraventions detected by the staff of the Sanitary Officers.

The following is a general description of the work done :—

PORT LOUIS.—During the year under review the Sanitary Officers paid 12,416 visits to private premises and lodging houses.

The inspections of shops, markets, slaughter houses and butchers' shops amounted to 2,656 and special enquiries and other duties, &c., including attendances at cremations and exhumations as well as controls of the milk trade were attended to on 8,219 occasions.

The staff made 1,719 inspections of stables, pigsties and cowsheds and controlled the night soil service and the public latrines 389 times during the year. The private, gratuitous latrines, cemeteries, noxious factories, camps, docks, streams and water courses called for 685 inspections.

Quarantine duties were attended to on an aggregate of 20 days by the Disinfectors of the staff.

The waste lands in the town and its suburbs were cleaned of rank and noisome vegetation over an extent of 481,598 sq. yards.

The Sanitary Officers attended Court on 277 occasions.

The total number of contraventions of the different enactments during the year amounted to 818 and out of these 65 had not been finally dealt with when the year closed.

The amount of fines collected amounted to Rs. 1,183.

720 schedules were served upon the Municipal Corporation for nuisances the removal of which the Municipality is responsible for under the provisions of Ordinance No. 23 of 1903, and 491 of them still remained unabated at the end of the year. Most of the nuisances were due to defective gutters, gully holes and regards, obstruction and defective condition of the bed and banks of the various streams of the town. It has already been pointed out that most of those nuisances were due to waste of water and that the present method of water distribution plays an important part in their causation.

The unfavourable bearing of these insanitary conditions on the causation and spread of malaria needs no further comment and the matter should engage the serious attention of the Urban Authorities.

The scavenging service was rather indifferently performed in the town. Although the principal thoroughfares received attention, the streets in the excentric areas were neglected.

519 such neglects were brought to the notice of the Municipality.

Besides the public nuisances above referred to, 9 were brought to the notice of the Honourable the Director of Public Works and 13 to that of the Honourable Manager of Railways, while 2,142 notices and requests were served in connection with nuisances detected on private premises.

176 inspections were made by the staff in connection with dhobies' workshops and 145 in regard to bakehouses in the town.

The water carriage system has been further extended in Port Louis by the construction of 6,393 feet of sewers and 5 private premises have been connected with the drainage system during the year under review.

The application of the Swine destruction Ordinance has resulted in the shooting of 167 pigs by the Police in the extra urban areas of Port Louis.

1,104 orders under Ordinance No. 21 of 1900 were issued by the Sanitary Warden of Port Louis for the removal of insanitary conditions detected in shops, stores and private premises and also to protect the buildings against invasion of rats and in that respect to secure a more satisfactory method in the storage of grain and other stores in Port Louis.

The water supply of Port Louis remains, as has already been pointed out in previous reports, unsatisfactory and exposed to pollution. No action has, as yet, been taken by the Municipal Corporation to improve matters in that direction and it is to be hoped that this all important question will soon receive the serious attention of the Municipality.

PLAGUE :—8 cases of plague were registered in Port Louis and 25 in the country districts during the year under review ; of these 25 died giving a death-rate of 75.8 o/o.

SAVANNE :—A small outbreak occurred at Riche Bois during the period from the 15th of June to the 30th October 1915 ; 22 cases with 15 deaths were registered giving a death-rate of 68.2 o/o. Seven cases of the pneumonic type were observed during the course of that epidemic.

PLAINES WILHEMS :—Only 3 cases were detected in the district of Plaines Wilhems, 2 at Rose Hill and 1 at Quatre Bornes. They all proved fatal. The other districts were free from the disease.

480 grain stores and shops and 784 private premises were fumigated by means of sulphur burners and the Clayton apparatus.

The total number of rodents killed amounted to 2,106. The total number of rodents destroyed by means of traps and poison amounted to 52,296 in town and 55,562 in the country districts.

27,938 rats were microscopically examined during the year ; of these 478 were found plague infected, giving a rate of infection among rodents of 1.7 o/o.

RURAL DISTRICTS :—The number of contraventions detected by the Sanitary Officers was 5,903. Prosecutions were resorted to in 4,316 instances and the fines imposed amounted to Rs. 11,371.27.

Notices to the number of 19,719 were issued by the staff for the abatement of nuisances, of which 1,938 were not complied with, resulting in 1,567 prosecutions and a total of Rs. 3,083 as fines.

The markets and cemeteries under the charge of this Department yielded collections to the amount of Rs. 18,836.35, showing an increase over the preceding year of Rs. 8,196.50.

The number of animals killed in the public slaughter houses was 4,357 and the fees collected amounted to a total of Rs. 8,813.50.

The working of the following noxious factories has been sanctioned during the year under review :—

Lime kiln factory	...	...	...	0
Aloe fibre	...	...	...	1
Bambara	...	...	...	0
Manure	...	...	...	2

Estate Camps though often neglected during the crop season have on the whole been maintained in a satisfactory state of upkeep. The question of loose animals in the camps of certain estates is a source of serious nuisance and the difficulties met with by the Sanitary Officers in dealing with this contravention have remained numerous.

The spleen census and treatment of school children with quinine has been attended to during the year by the Sanitary Authorities and a number of sanitary and anti-malarial works have been carried out for the benefit of the general population on the lines laid down by Professor Ross.

F. L. KEISLER,

Acting Chief Sanitary Officer.

30th May, 1916.

ANNEXURE V.

Report on Progress of Major Anti-Malarial Works during the year 1915.

PORT LOUIS.

Lataniers stream.—Fourteen hundred feet of the bed of the stream was graded, widened and deepened. This involved the blasting of 750 cubic yards of rock. The improvement of the lower portion of the stream is now completed.

PAMPLEMOUSSES.

Tombeau River.—The improvement of the river from the sea to the Municipal dyke (8,000 feet) mentioned in last year's report has been completed. As already stated the river which was wide and of very irregular slope formed objectionable pools and marshes practically along its whole course which favoured the growth of aquatic vegetation almost impossible to get rid of. A regular bed of 7 feet wide and of sufficient depth to carry away moderate flood waters has now been given to the river, whilst the slope has been so adjusted as to enable the water to flow away at a sufficient velocity to prevent the deposit of silt and the growth of aquatic vegetation during the dry weather flow. This work has been effected almost entirely in solid rock.

The improvement of the river above the Municipal dam has been begun. Unfortunately owing to the presence of the dam it has not been possible to continue the channelizing of the bed of the stream effected on its lower portion without interruption. A most objectionable length of the river 2,300 feet must remain unimproved so long as the dam remains where it is. This is however not absolutely necessary as it could be removed to a more favourable spot up stream as has been done in several instances already.

From the point where the backing of the water due to the dam ceases, 2,000 feet of bed of the stream has been channelized on the lines already described.

Powder Mills.—Outside the enclosure walls of the old Powder Mills and Prison Establishments, there existed several marshy areas caused by the Ville Bague and Powder Mills Canal which had never been properly set out in that locality. The evil caused by this imperfect canal was aggravated by a water division and a shallow bridge placed in the course of the canal which backed the water and formed a rather extensive marsh. The canal has now been properly graded and deepened, its imperfect portions replaced by more suitable ones, and the water division shifted to a spot on the canal where no backing occurs and the shallow bridge replaced by a deeper one. Altogether 3,500 feet of the canal has been dealt with.

Citron River.—On this river, Dr. Reilley's dyke which backed the water on a length of 1,500 feet has been attended to. The water divisional notch at the dyke has been lowered six feet and the Powder Mills Canal which receives its water from the divisional notch has been deepened accordingly.

A diversion canal 1,500 feet long and a small weir, which owing to its position does not back water, have been built above Dr. Reilley's dyke.

These works have enabled the suppression of an evil caused by a long dyke (300 feet long) placed in a flat part of the river, without prejudicing the water system depending upon the dyke.

GRAND PORT.

Rose Belle.—The channelizing of Ruisseau Sec by means of a central channel was continued to the outfall point, 800 feet of concrete channel have been built; this work completed the improvement of the stream running through the village.

BLACK RIVER.

Case Noyale.—The improvement of the bed of the stream which winds through the inhabited portion of the village causing innumerable marshes on its course has been effected.

A central channel with suitable gradients has been cut on a length of 4,000 feet, partly in rock and partly in hard bouldery soil.

MOKA.

Réduit.—In the rocky bed of Terre Rouge River near the Réduit bridge there was a large number of cavities where rain water used to collect and remained for weeks. After it was ascertained that these cavities constituted innumerable breeding places for anopheles they were all filled with concrete.

FLACQ.

Rivière Françoise.—The deviation channel 7 feet wide and 18 inches deep made to exclude water from the flat marshy bed of *Rivière Françoise* was completed on a length of 3,000 feet.

DRAINAGE WORKS.

The following repairs have been effected to the drains in the rural districts :—

Barkly Asylum drain
Camp Natou drain
Drains at Mahebourg.

The underground portion of the Souillac Hospital drain has been reconstructed and 500 feet of drains at Chemin Grenier have also been constructed.

LAZARETS.

Repairs have been effected to the Souillac and Flacq lazarets.

PUBLIC LATRINES.

32 Public Latrines have been repaired in the rural districts.

MARKETS AND ABATTOIRS.

Repairs have been effected to the Rose Hill Abattoir and Market and the labourer's camp; to the Pamplémousses Market and Abattoir and also to the Mahebourg Abattoir.

BUILDING PERMITS.

1,920 permits were delivered as follows :—

Better class buildings ...	...	...	...	232
Straw Huts ...	...	...	...	1,488
Repairs to existing buildings ...	...	...	...	200

Total... 1,920

20th June, 1916.

J. Loïs NAZ,
Sanitary Engineer.

ANNEXURE VI.

ANNUAL REPORT.

Report on the Anti-Malarial Works carried on in Rivière Sèche and in Deep River during the year 1915.

In 1915, the channelling of the sections of Rivière Sèche already begun in 1913 and in 1914, i.e. the whole portion of the river comprised between the dam newly constructed by the "La Caroline" Estate and the old "Belle Rose" Factory, was completed.—Important secondary drains were also constructed for the drainage of springs in the vicinity of these same sections.

The total cost for the abovementioned works amounted to Rs. 29,187.66.

The lower part of Triton Stream, a feeder of Rivière Sèche, was also canalised over a length of 1,250 feet, at the cost of Rs. 2,965.98.

At the request of the inhabitants of the locality, a ferro-concrete bridge was constructed across Rivière Sèche canal in the vicinity of the Roman Catholic Church at the cost of Rs. 2,997.76.

In July 1915, the channelling of Rivière Sèche was still further continued through a new section to comprise the St. Amand, the Jean Jacques and the Abboo Bakar Marshes, and by the end of December, the expenditure incurred in connection with this 5,100 feet long section amounted to Rs. 8,754.59.

Preliminary works of great importance were also effected in Deep River; the level of the water in a long 3,000 feet basin was lowered by 10 feet, and this led to the drainage of a marshy tract in the immediate vicinity of Bel-Air Village.

Plans and Sections are also being attended to for preparation of a drainage scheme in connection with Deep River, Olivia, Trois Îlots and Étoile localities.

In December 1915, costs amounted to Rs. 4,766.26.

A. C. LEMEUR,
Assistant Sanitary Engineer.

24th April 1916.

